

ANR51/RES

compact, closed loop, rotary stepper positioner with vertical rotation axis and with resistive sensor

Technical Specifications

Technology		Compatibility with Electronics	
travel mechanism	inertial piezo drive	ANC350 piezo positioning controller	all versions
Size and Dimensions		Working Conditions	
footprint; height	15 x 15 (Ø 20); 9.5 mm	mounting orientation	axis vertical
weight	10 g	magnetic field range	0 .. 31 T
through hole in the middle of the axis	Ø 1.5 mm	temperature range (/LT, /LT/HV, /LT/UHV)	10 mK .. 373 K
Coarse Positioning Mode		max. bake out temperature (/UHV, /LT/UHV)	150 °C
	@ 300 K	@ 4 K	
input voltage range	0 .. 60 V	0 .. 60 V	minimum pressure (/RT, /LT)
typical actuator capacitance	1.025 µF	0.2 µF	1E-4 mbar
travel range (step mode)	360° endless, both directions		minimum pressure (/HV, /LT/HV)
typical minimum step size	1 m°	0.5 m°	1E-8 mbar
maximum drive velocity	≈ 10 °/s		minimum pressure (/UHV, /LT/UHV)
			5E-11 mbar
Fine Positioning Mode		Accuracy of Movement	
	@ 300 K	@ 4 K	wobble
input voltage range	0 .. 60 V	0 .. 150 V	± 1 mrad
fine positioning range	0 .. 40 m°	0 .. 6 m°	
fine positioning resolution	µ°	µ°	
Materials (non-magnetic)		Position Encoder	
positioner body	titanium (other materials on request)		readout mechanism
actuator	PZT ceramics		resistive sensor
connecting wires	insulated twisted pair, copper		sensor power (when measuring)
			1 µW .. 1 mW
			encoded travel range
			315°
			sensor resolution
			≈ 6 m°
			repeatability
			≈ 50 m°
			linearity (over full travel)
			< 1%
			absolute accuracy
			typically < 1 % of travel range
Load		Connectors and Feedthroughs	
	mounting orientation: axis vertical (@ 300 K)		
maximum load	0.3 N (30 g)		
maximum static torque around axis	0.3 Ncm		
maximum dynamic torque around axis	0.2 Ncm		
Mounting		/RT, /LT Versions	all /HV, /UHV Versions
from the bottom	2 threads M2 x 2.3 mm		
load on top	2 threads M1.6 x 1 mm		
Article Numbers		connector type	2-pole pin plug, Ø 0.5 mm, d = 2 mm, 30 cm cable with connector
/RT Version	1003291		
/HV Version	1003293		
/UHV Version	1003294		
/LT Version	1003292		
/LT/HV Version	1003295		
/LT/UHV Version	1003296		
		encoder connector	additional 3-pole plug
		electrical feedthrough solution	VFT/LT
			30 cm cable with connector additional 3-pole plug (PEEK) VFT/HV, VFT/UHV

Technical Drawings

